MEAP

MICHIGAN EDUCATIONAL ASSESSMENT PROGRAM

Grade 4 Mathematics

Released Items

Winter 2003

13   (4 Points)

The fourth grade students were assigned to read each night for homework. The charts show the number of minutes assigned.

Time Spent on Homework Each Day

Week 1

Day	M	T	W	Th	F
Min	30	20	30	20	

Week 2

Day	M	T	W	Th	F
Min	20	30		30	20

Week 3

Day	M	T	W	Th	F
Min	30		30	20	30

Look for a pattern and fill in the missing times for the first 3 weeks.

ANSWER THIS ITEM IN YOUR ANSWER FOLDER.

SHOW ALL YOUR WORK IN YOUR ANSWER FOLDER.

Scoring Rubric for Item 13

Part One: 2 Points

1 Point = **ANY** evidence that indicates that the student correctly determined the times to be "30, 20 and 20 (minutes)".

1 Point = A underline correct description of the pattern such as the following: "30, 20, 30, 20, 30", or "30, 20, 30", or "30, 20 or 20, 30", or "week 1 and 3 are the same, so 2 and 4 are also". Any informal language such as "goes back and forth" or "goes up and down" is acceptable only when it is indicated that the correct numbers 30,20 do so.

Alternate 2 Points: A complete explanation of the pattern (e.g. "add 10 and then subtract ten").

Part Two: 2 Points

2 Points = Correctly fills in all of the times for Week 4 (20, 30, 20, 30, 20).

1 Point = Correctly fills in FOUR of the times, or provides a correct pattern but begins with "30" (e.g. "30, 20, 30, 20, 30").

4 points

13 Look for a pattern and fill in the missing times for the first 3 weeks. Explain the pattern you found to fill in the missing times. Because it is a pattern

Of 30, and 20 so I just followed by the numbers,

Based on the pattern you found, give the times for Week 4.

Week 4

Day	M	T	W	Th	F
Min	20	20	30	30	20

Scorepoint: 0

This response demonstrates no understanding of the item being tested.

4 points

13 Look for a pattern and fill in the missing times for the first 3 weeks. Explain the pattern you found to fill in the missing times.

Based on the pattern you found, give the times for Week 4.

Week 4

Day	M	T	W	Th	F
Min	30	20	30	20	30

Scorepoint: 1

This response provides a correct pattern for Week 4 but begins with "30".

4 points

13   Look for a pattern and fill in the missing times for the first 3 weeks. Explain the pattern you found
     to fill in the missing times.

Its 30,20,30,20 30

Based on the pattern you found, give the times for Week 4.

Day	M	T	W	Th	F
Week 4 Min	30	20	30	20	30

Scorepoint: 2

This response includes a correct description of the pattern (It's 30,20,30,20,30) and
provides a correct pattern for Week 4 but begins with "30".

4 points

13 Look for a pattern and fill in the missing times for the first 3 weeks. Explain the pattern you found to fill in the missing times.

You subtract ten then you an ten

Based on the pattern you found, give the times for Week 4.

Day	M	T	W	Th	F
Week 4 Min	30	20	30	20	30

Scorepoint: 3

This response includes a complete explanation for the pattern (you subtract ten then you add ten), and provides a correct pattern for Week 4 but begins with "30".

4 points

13 Look for a pattern and fill in the missing times for the first 3 weeks. Explain the pattern you found to fill in the missing times.

every other day it was 30 or 20 if it started on 30 it would go to 20 than 30 . It would go up ten then go down by ten.

Based on the pattern you found, give the times for Week 4.

Week 4

Day	M	T	W	Th	F
Min	20	30	20	30	20

Scorepoint: 4

This response includes a complete explanation for the pattern (It would go up ten then go down by ten), and correctly and completely fills in the pattern for Week 4.

39   **(4 Points)**

Shirley was doing research for a science class project. She asked two first grade classes to choose their favorite winter activity.

Room 103	
Ice skating	10
Building a snow fort	8
Building snowmen	5
Sledding	2

Room 104	
Ice skating	~~THH~~ ||
Building a snow fort	~~THH~~
Building snowmen	~~THH~~ ||
Sledding	~~THH~~ |

ANSWER THIS ITEM IN YOUR ANSWER FOLDER.

SHOW ALL YOUR WORK IN YOUR ANSWER FOLDER.

Scoring Rubric for Item 39

Student responses should have the following components with the indicated value points:

> **4 value points** -   The activities are graphed with the correct values; 1 point per
>   activity. The graph may show two bars per activity (with one bar per room) or
>   the graph may show one bar per activity (with the total number of votes from
>   both rooms).

Activity	Total Votes
Ice skating	17
Snow fort	13
Snowmen	12
Sledding	8

> Note: A response receives two value points if only one room is graphed, and
> the graph is done correctly. If only one room is graphed and there is one error,
> then one value point is awarded. If only one room is graphed and there are two
> or more errors, then no value points are awarded. If both rooms are graphed
> separately, score each accordingly and add up the value points.

> **1 value point** - Gives an appropriate title.
> **1 value point** - Gives appropriate labels for BOTH of the axes.
> **1 value point** - Gives appropriate labels for the bars.
> **1 value point** - Uses an appropriate scale for the graph (which includes a correctly
>   placed origin).
> **2 value points** –A <u>complete conclusion</u> indicates that ice skating is the favorite activity
>   (or liked the best), OR that sledding is the least favorite (or least liked), OR
>   indicates a correct comparison between activities (e.g. ice skating was liked
>   more than sledding).
> > -   A <u>partial conclusion</u> (receives one value point) includes an error
> >   made calculating and/or graphing the total votes and the favorite or
> >   least favorite activity named is consistent with the graph, OR
> >   indicates that "most" like ice skating.
> > -   Note: if only ONE room is graphed, the conclusion can only receive
> >   one value point.
> > ***If a line graph is used, total all other value points to be awarded and
> > DEDUCT one value point.**

A **4-point** response receives 9 or 10 value points.

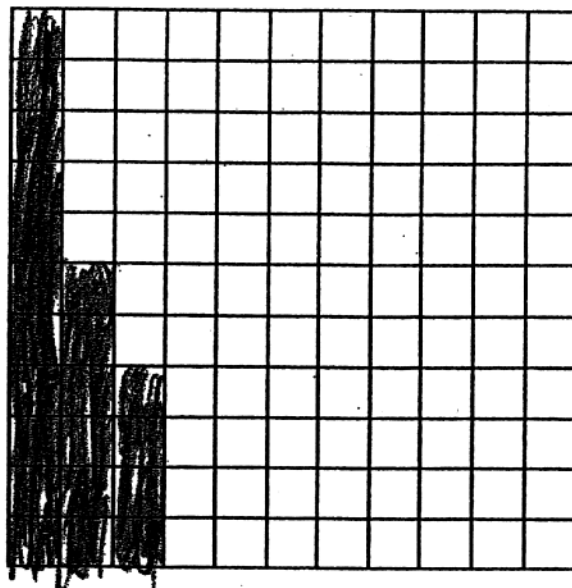A **3-point** response receives 7 or 8 value points.

A **2-point** response receives 4, 5, or 6 value points.

A **1-point** response receives 1, 2 or 3 value points (an Alternate 1-point response <u>shows an
attempt</u> by ONLY adding the two rooms together for every activity, and/or interprets room 104's
tally marks).
A **0-point** response receives 0 value points.

4 points

39 Make a graph showing the results of all the choices. Remember to include an appropriate title and correct labels.
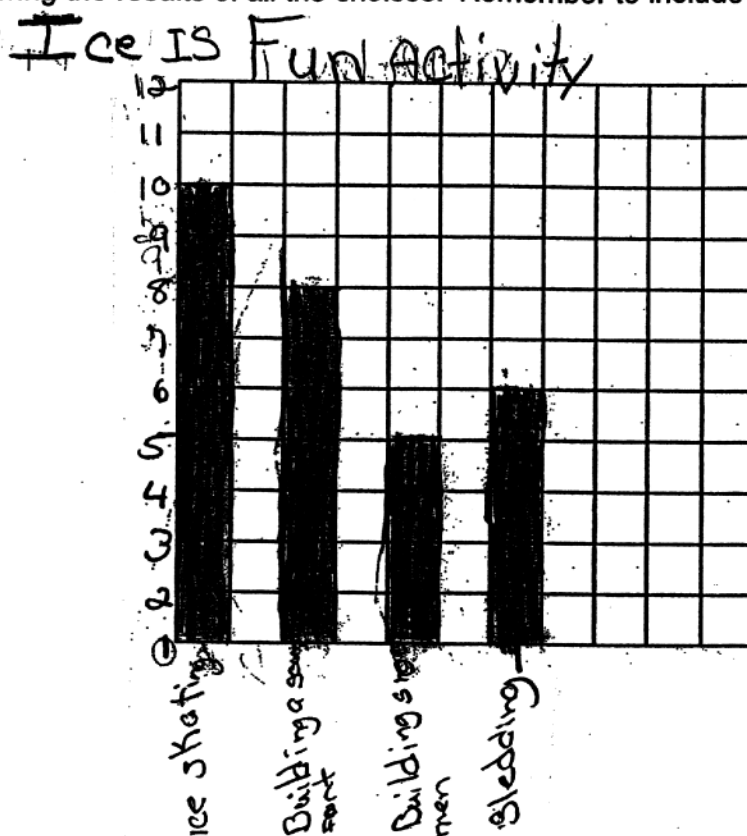
Using the data from your graph, write a conclusion about the first graders' favorite winter activities.

Scorepoint: 0

This response demonstrates no understanding of the item being tested.

4 points

39 Make a graph showing the results of all the choices. Remember to include an appropriate title and correct labels.
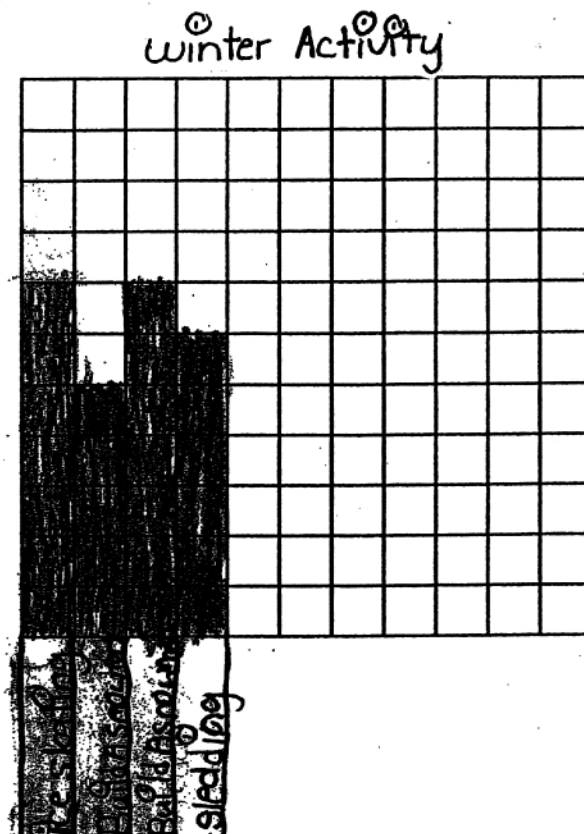
Ice IS Fun Activity

Using the data from your graph, write a conclusion about the first graders' favorite winter activities.

Scorepoint: 1 (3 value points)

This response includes one room (103) graphed with one error (sledding), an appropriate title, with bars labeled.

4 points

39 Make a graph showing the results of all the choices. Remember to include an appropriate title and correct labels.
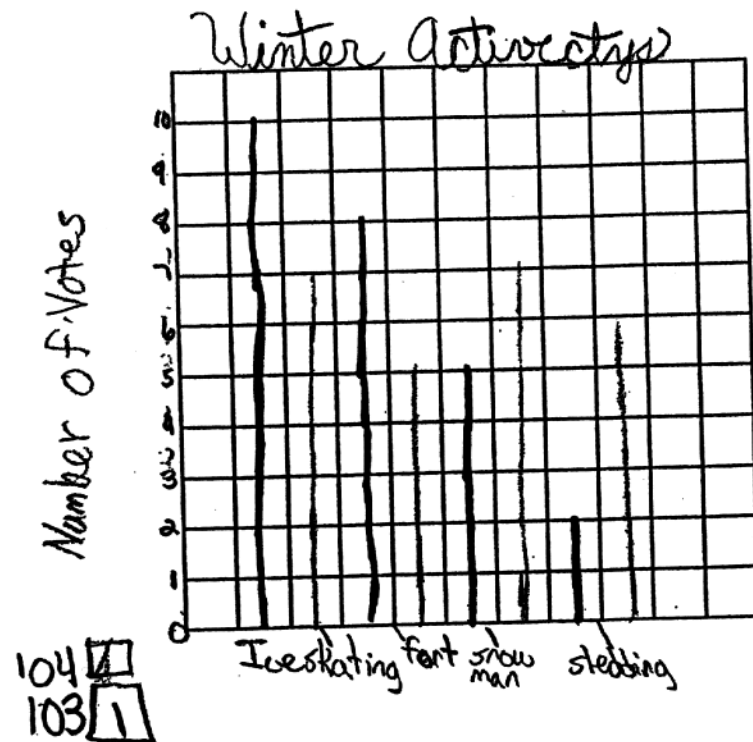
Winter Activity

Using the data from your graph, write a conclusion about the first graders' favorite winter activities.

Scorepoint: 2 (4 value points)

This response includes one room (104) graphed correctly, an appropriate title, with bars labeled.

4 points

39 Make a graph showing the results of all the choices. Remember to include an appropriate title and correct labels.

Winter activity

Number of Votes

10
9
8
7
6
5
4
3
2
1
0

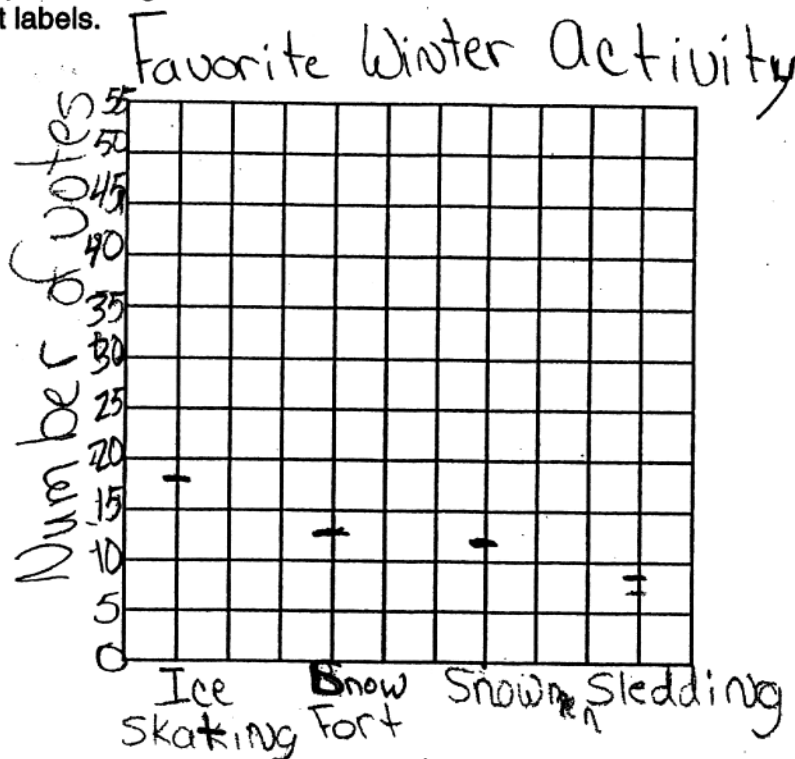Ice skating tent snow man sledding

104 ☒
103 ☐

Using the data from your graph, write a conclusion about the first graders' favorite winter activities.

Scorepoint: 3 (7 value points)

This response includes both rooms graphed correctly, an appropriate title, with bars labeled and an appropriate scale.

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4 points

39 Make a graph showing the results of all the choices. Remember to include an appropriate title and correct labels.

Favorite Winter Activity

Number of Quotes

55
50
45
40
35
30
25
20
15
10
5
0

Ice Skating   Snow Fort   Snowman   Sledding

Winter Activities

Using the data from your graph, write a conclusion about the first graders' favorite winter activities.

The two 1st grade classes favorite winter activity is ice skating.

Scorepoint: 4 (10 value points)

This response includes all four activities graphed correctly, an appropriate title, with both axes and bars labeled, an appropriate scale and an acceptable conclusion.